

Claims

1. Wire-guide/nozzle assembly (11, 13) for an electric arc welding torch, comprising at least one  
5 nozzle (11) for delivering gas and at least one wire-guide system (13) for guiding at least one consumable wire, characterized in that the downstream end (20) of the wire-guide system (13) runs into the nozzle (11).
- 10 2. Assembly according to Claim 1, characterized in that the peripheral wall of the nozzle (11) has at least one cut-out (10) through which the wire-guide system (13) passes.
- 15 3. Assembly according to either of Claims 1 and 2, characterized in that the wire-guide system (13) is fastened to the nozzle (11).
- 20 4. Assembly according to one of Claims 1 to 3, characterized in that the axis of the wire-guide system (13) at its downstream end (20) and the axis of the nozzle (11) make, with each other, an angle between 10° and 70°, preferably around 15° to 45°.
- 25 5. Assembly according to one of Claims 1 to 4, characterized in that the wire-guide system (13) is hollow and of oblong general shape, preferably the wire-guide system (13) has the shape of a hollow tube, the internal diameter of which is between 0.6 mm and  
30 2 mm.
- 35 6. Assembly according to one of Claims 1 to 5, characterized in that the wire-guide system (13) comprises a part (24) parallel to the axis of the nozzle (11) followed by a curved part (25), the said parallel part (24) and the said curved part (25) both being located outside the nozzle (11).

7. Assembly according to one of Claims 1 to 6, characterized in that the distance (D) separating the axis of the parallel part (24) of the wire-guide system (13) from the axis of the nozzle (11) is less than  
5 30 mm.

8. Assembly according to one of Claims 1 to 7, characterized in that the nozzle (12) includes attachment means (17) for attaching it to a welding  
10 torch, preferably the attachment means (17) comprise a thread provided on the outer peripheral wall of the nozzle (12).

9. TIG welding torch, which includes a wire-  
15 guide/nozzle assembly (11, 13) according to one of Claims 1 to 8.

10. Torch according to Claim 9, characterized in that it furthermore includes a non-consumable electrode (12)  
20 placed relative to the wire-guide/nozzle assembly (11, 13) in such a way that the wire (14) conveyed by the wire guide (13) penetrates the nozzle (11), going towards the electrode (12) at an angle between 5° and 50°, preferably between 10° and 30°, to the axis of the  
25 electrode (12) or of the nozzle (11), the wire (14) and the electrode (12) lying in one and the same plane.

11. Torch according to either of Claims 9 and 10, characterized in that it furthermore includes a  
30 mounting (27) onto which the wire-guide/nozzle assembly (11, 13) is fitted in a predefined position (30).

12. Robotic welding unit, comprising at least one  
35 robotic arm provided with a torch according to one of Claims 9 to 11.